

and on one occasion no less than 8 lb. of lime, instead of the usual quantity—viz., 5 lb.—was used before the Bordeaux solution stood the test, the lime proving of inferior quality. This shows it is always advisable to test this mixture before applying, or the results might be disastrous through no apparent cause. Litmus paper can be procured from any chemist. A packet costs 4d., and contains twenty papers, so the test is very inexpensive. I omitted to mention that in Mr. Maffey's experiments a solution of ferro-cyanide was used. It is a more delicate test than the litmus paper, but, being a deadly poison, it would be dangerous to have on hand unless carefully guarded, especially where children are concerned, so I prefer to recommend the litmus paper.

After the application of the Bordeaux mixture no injurious effects to foliage or fertilization were noticed. The objection to the Bordeaux is the amount of sediment left on the fruit after spraying, necessitating washing or wiping before sale. This entails much extra work. To obviate this, if possible, the plants on the east side of the house received only three sprayings with Bordeaux. The ammoniacal carbonate of copper was then used. This solution can be purchased ready prepared at 12s. 6d. per gallon jar. The proportions recommended by the Department for this experiment are 1 pint of the solution to 15 of water. This solution was successful in controlling fungoid diseases especially "spot" (*Cladosporium fulvum*). It leaves no sediment on foliage or fruit. It is evident, however, that further tests will have to be carried out, as towards the end of the season the repeated sprayings every fourteen days seemed to cause the leaves to turn a yellow colour, although the injury did not affect the crop, as all trusses of fruit had well set before the injury became noticeable. A comparison between the yield of crop on the east and west sides, and also a glance at the photographs, will show the condition of plants, and bear out the above statement. Specimens of affected plants were forwarded to the Government Biologist, Mr. Cockayne, for examination. He reports as follows: "The yellow colouring of the leaves of the tomatoes submitted, under cover of your memorandum of the 26th ultimo, is not due to any specific organism, but is apparently entirely caused through spray injury. The conditions under which carbonate of copper is injurious are not properly known." This being the case, it would not be advisable to recommend this spray until further experiments and tests have been carried out. I understand this work will be continued by the Department at the Hutt. The results of the experiments will, I am sure, be awaited with interest.

#### MULCHING.

No stable manure or mulching of any description were used in the house. A light raking of the surface soil prevented caking. This house was mainly used for conducting experiments with remedies for